



## ***Garbage Trucks: Alternative Fuel Progress and Opportunities in New York City and Nationwide***

### **The Challenges of Garbage Trucks**

Although garbage trucks do not constitute a major share of the vehicles on America's roads (only 0.06 percent), the average garbage truck logs twice as many miles a year as the typical single-unit heavy duty truck and nearly three times as the average bus. Except for tractor trailers, garbage trucks are estimated to use more fuel annually than all other vehicles because they travel more miles and get extremely low fuel economy – estimated at only 3-3.5 miles per gallon due to their unfavorable operating conditions, which include frequent starts and stops and energy-intensive compaction cycles that condense the contents of the truck. An average garbage truck is estimated to use more than four times the fuel annually than an average single-unit heavy-duty truck or an average bus.

### **The Possibilities for Alternative Fuels**

Garbage trucks present themselves as excellent candidates for alternative fuel conversions, which offer significant air quality, public health, and energy benefits for the communities in which they operate. The operating characteristics of many garbage trucks are well-suited to alternative fuels, with 61 percent traveling under 200 miles per trip and refueling at a central station (either company owned on-site or privately held off-site). Fifty-eight percent of garbage trucks travel under 100 miles and are centrally refueled.

### **Spotlight on New York City**

The New York City Department of Sanitation (DOS) currently operates a fleet of 2,566 garbage trucks, which includes approximately 2,066 refuse collection vehicles (the remaining trucks collect recyclables). The DOS fleet was an alternative fuel pioneer among garbage truck fleets, receiving its first compressed natural gas (CNG) prototype in 1989 and acquiring 16 additional CNG refuse collection vehicles by 1996. Today, DOS operates a fleet of 26 CNG garbage trucks (in addition to operating a light duty fleet of 425 CNG vehicles). The CNG vehicles are currently refueled at public-access CNG stations throughout New York City, but DOS is in the process of receiving proposals to develop a CNG fueling station for its fleet in Woodside, Queens, which is scheduled for completion by the end of 2003.

The experience of the Department of Sanitation with its CNG fleet has been largely positive. CNG technology was originally challenging, but has been refined considerably with each new generation of vehicles. DOS has become increasingly comfortable with the operation and maintenance of their CNG vehicles.

The biggest obstacle to further acquisition of alternative fuel vehicles by DOS is the higher capital cost. According to the Department of Sanitation, the average cost of a new diesel garbage truck is \$135,000. The incremental capital cost of a new CNG garbage truck is about \$65,000.